IN THE CLAIMS

Please amend the claims as follows:

~~[c1]~~1. (Currently Amended) A ~~method~~computer system for finding a worst case aggressor set of a victim net based on a plurality of logically exclusive sets, the computer system comprising instructions for:

forming a first set, wherein the first set comprises an aggressor net of the victim net;

using the first set and the plurality of logically exclusive sets to formulate a problem; and

solving the problem to determine a worst case aggressor net of the victim net, wherein the worst case aggressor set comprises the worst case aggressor net.

~~[c2]~~2. (Currently Amended) The ~~method~~computer system of claim 1, wherein the plurality of logically exclusive sets comprises a mutually exclusive set, and wherein the mutually exclusive set comprises a signal net.

~~[c3]~~3. (Currently Amended) The ~~method~~computer system of claim 1, wherein the aggressor net in the first set has a corresponding weight.

~~[c4]~~4. (Currently Amended) The ~~method~~computer system of claim 1, solving the problem comprising instructions for:

finding the worst case aggressor net of the victim net.

~~[c5]~~5. (Currently Amended)The ~~method~~computer system of claim 1, further comprising instructions for:

forming a second set, wherein the second set comprises an aggressor net that is in the first set and that is part of the plurality of logically exclusive sets.

~~[c6]~~6. (Currently Amended) The ~~method~~computer system of claim 5, further comprising instructions for:

forming a third set, wherein the third set comprises an aggressor net that is in the first set but is not part of the second set.

~~[c7]~~7. (Currently Amended) The ~~method~~computer system of claim 6, wherein the aggressor net in the third set becomes part of the worst case aggressor set.

~~[c8]~~8. (Currently Amended) The ~~method~~computer system of claim 5, further comprising instructions for:

reducing each of the plurality of logically exclusive sets to a second plurality of logically exclusive sets such that a net in a set of the second plurality of logically exclusive sets is part of the second set.

~~[c9]~~9.(Currently Amended) The ~~method~~computer system of claim 8, wherein an empty set in the second plurality of logically exclusive sets is removed from the second

plurality of logically exclusive sets.

~~[c10]~~10.(Currently Amended) The ~~method~~computer system of claim 8, solving the problem comprising instructions for:

using a first representation to represent a net in the second set;

using a second representation to represent a set in the second plurality of logically exclusive sets; and

creating an association between the first representation and the second representation when the net is part of the set.

~~[c11]~~11.(Currently Amended)The ~~method~~computer system of claim 10, wherein the first representation is a first node, and wherein the second representation is a second node.

~~[c12]~~12.(Currently Amended) The ~~method~~computer system of claim 10, wherein the association is an edge.

~~[c13]~~13.(Currently Amended) The ~~method~~computer system of claim 10, further comprising instructions for:

selecting the second representation;

selecting an adjacent net of the second representation such that the adjacent net has a weight greater than another adjacent net of the first representation;

adding the adjacent net to the worst case aggressor set;

removing an association of the second representation;

removing the second representation;

removing an association of the adjacent net;

removing the adjacent net; and

returning the worst case aggressor set when there are no representations of the sets of the second plurality of logically exclusive sets remaining in the problem.

~~[c14]~~14.(Currently Amended) The ~~method~~computer system of claim 1, wherein the problem is represented graphically

~~[c15]~~15.(Currently Amended) The ~~method~~computer system of claim 12, wherein the graphical representation is a bipartite graph.

~~[c16]~~16.(Currently Amended) A software tool that finds a worst case aggressor set of a victim net, comprising:

a processor;

a memory; and

software instructions residing in the memory and executable in the processor for performing a series of operations to find a worst case aggressor net based on a plurality of logically exclusive sets.

~~[c17]~~17.(Currently Amended) The software tool of claim 16, wherein the plurality of logically exclusive sets comprises a mutually exclusive set, and wherein the mutually exclusive set comprises a signal net.

~~[c18]~~18.(Currently Amended) The software tool of claim 16, further comprising:

a portion that forms a first set, wherein the first set comprise an aggressor net of the victim net,

another portion that forms a second set, wherein the second set comprises an aggressor net that is part of the first set and that is part of the plurality of logically exclusive sets;

another portion that forms a third set, wherein the third set comprises an aggressor net that is part of the first set but is not part of the second set;

another portion that reduces the plurality of logically exclusive sets to a second plurality of logically exclusive sets such that a net in a set of the second plurality of logically exclusive sets is part of the second set; and

another portion that formulates a problem based on the second set and the second plurality of logically exclusive sets.

~~[c19]~~19.(Currently Amended) The software tool of claim 18, wherein the problem is represented graphically.

~~[e20]~~20. (Currently Amended) The software tool of claim 19, wherein the graphical representation is a bipartite graph.

~~[e21]~~21.(Currently Amended) The software tool of claim 18, wherein the aggressor net in the first set has a corresponding weight.

~~[e22]~~22.(Currently Amended) The software tool of claim 18, wherein the worst case aggressor set comprises an aggressor net in the third set.

~~[e23]~~23.(Currently Amended) The software tool of claim 18, wherein an empty set in the second plurality of logically exclusive sets is removed from the second plurality of logically exclusive sets.

~~[e24]~~24.(Currently Amended) The software tool of claim 18, the problem comprising:

a portion that uses a first representation to represent a net in the second set;

another portion that uses a second representation to represent a set in the second plurality of logically exclusive sets; and

another portion that creates an association between the first representation and the second representation when the net is part of the set.

~~[e25]~~25.(Currently Amended) The software tool of claim 24, wherein solving the problem determines the worst case aggressor net, the software tool further

comprising:

a portion that selects a set in the second plurality of logically exclusive sets;

another portion that selects an adjacent net of the set such that the adjacent net has a weight greater than another adjacent net of the set;

another portion that adds the adjacent net to the worst case aggressor set;

another portion that removes an association of the set;

another portion that removes the set;

another portion that removes an association of the adjacent net;

another portion that removes the adjacent net; and

another portion that returns the worst case aggressor set when there are no sets of the second plurality of logically exclusive sets remaining.

~~[o26]~~26.(Currently Amended) A ~~method~~ computer system for solving a problem to find a worst case aggressor net based on a logically exclusive set, the computer system comprising instructions for:

using a first representation to represent the logically exclusive set;

selecting the first representation;

selecting a second representation, wherein the second representation represents an adjacent net of the first representation;

removing an association of the first representation;

removing the first representation;

removing an association of the second representation;

removing the second representation; and

returning the adjacent net represented by the second representation as the worst case aggressor net.

~~[e27]~~27.(Currently Amended) The ~~metho~~computer system of claim 26, wherein the first representation is a first node, and wherein the second representation is a second node.

~~[e28]~~28.(Currently Amended) The ~~meth~~computer system of claim 26, wherein the association of the first representation is an edge, and wherein the association of the second representation is an edge.

~~[e29]~~29.(Currently Amended) The ~~meth~~computer system of claim 26, wherein the adjacent net represented by the second representation has a weight greater than another net in the problem.

~~[e30]~~30.(Currently Amended) The ~~meth~~computer system of claim 26, wherein the problem is represented graphically.

~~[e31]~~31.(Currently Amended) The ~~meth~~computer system of claim 26, wherein the graphical representation is a bipartite graph.

~~[e32]~~32.(Currently Amended) A software tool comprising:

a processor;

a memory; and

software instructions residing in the memory and executable in the processor for performing a series of operations for solving a problem to find a worst case aggressor net based on a logically exclusive set.

~~[c33]~~33.(Currently Amended) The software tool of claim 32, further comprising:

a portion that uses a first representation to represent the logically exclusive set;

another portion that selects the first representation;

another portion that selects a second representation, wherein the second representation represents an adjacent net of the first representation;

another portion that removes an association of the first representation;

another portion that removes the first representation;

another portion that removes an association of the second representation;

another portion that removes the second representation; and

another portion that returns the adjacent net represented by the second representation as the worst case aggressor net.

~~[c34]~~34.(Currently Amended) The software tool of claim 33, wherein the adjacent net represented by the second representation has a weight greater than another net in the problem.

~~[e35]~~35.(Currently Amended) The software tool of claim 32, wherein the problem is represented graphically.

~~[e36]~~36.(Currently Amended) The software tool of claim 35, wherein the graphical representation is a bipartite graph.

~~[e37]~~37.(Currently Amended) A ~~method~~ computer system for formulating a problem to find a worst case aggressor net of a victim net based on a logically exclusive set, the computer system comprising instructions for:

using a first representation to represent a net, wherein the net is an aggressor net of the victim net and is part of the logically exclusive set;

using a second representation to represent a set, wherein the set is the logically exclusive set; and

selectively creating an association between the first representation and the second representation when the net is part of the set.

~~[e38]~~38.(Currently Amended) The ~~method~~ computer system of claim 37, wherein the first representation is a first node, and wherein the second representation is a second node.

~~[e39]~~39.(Currently Amended) The ~~method~~ computer system of claim 37, wherein the

association is an edge.

~~[e40]~~40.(Currently Amended) A software tool, comprising:

a processor;

a memory; and

software instructions residing in the memory and executable in the processor for performing a series of operations for formulating a problem to find a worst case aggressor net of a victim net based on a logically exclusive set.

~~[e41]~~41.(Currently Amended) The software tool of claim 40, further comprising:

a portion that uses a first representation to represent a net, wherein the net is an aggressor net of the victim net and is part of the logically exclusive set;

another portion that uses a second representation to represent a set, wherein the set is the logically exclusive set; and

another portion that selectively creates an association between the first representation and the second representation when the net is part of the set.